**0AMRITA SCHOOL OF ENGINEERING CHENNAI CAMPUS**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**19CSE202 DATABASE MANAGEMENT SYSTEMS**

**ASSIGNMENT – I**

**Submission Deadline: 30-09-2022**

**Note: Must be written and submitted in neat paper or A4 Paper, submitting beyond the deadline will not be considered for evaluation.**

1. Explain the responsibilities of the following systems.
2. Transaction Manager
3. Query Processor
4. Storage Manager
5. Database Administrator
6. What is an ER diagram? Why do we need to design ER Diagram? Write down the notations in the ER diagram with its purpose. Define the term cardinality with its types. Mention the notations to draw an Extended ER diagram.
7. Draw an E-R diagram for the “Restaurant Menu Ordering System”, which will facilitate the food items ordering service within the restaurant. The entire restaurant scenario is detailed as follows.

* The customer is able to view the food items menu, call the waiter, place orders, and obtain the final bill through the computer kept on the table.
* The waiters through their wireless tablet PC are able to initialize a table for customers, control the table functions to assist customers, order, send orders to food preparation staff (chef), and finalize the customer’s bill.
* The food preparation staffs (chefs), with their touch display interfaces to the system, are able to view orders sent to the kitchen by waiters.
* During preparation, they are able to let the waiter know the status of each item and can send notifications when items are completed.

The system should have full accountability and logging facilities and should support supervisor actions to account for exceptional circumstances, such as a meal being refunded or walked out.

1. What is UML? How UML diagrams are used to represent database design? Explain in detail with various diagrams.
2. Consider the relational schema and answer the queries in relational algebra.

